BY KEVIN M. SAVETZ

High-Speed Internet Access

Today's Reality, Or Still A Dream?

They don't call it the World Wide Wait for nothing.

Accessing the Internet can be dreadfully slow. Painfully slow. Glacial. Visiting a graphics-heavy Web site after work or on the weekend can try the patience of even the most tolerant person. And if you've ever downloaded a really big file—say, the latest version of Netscape Communicator or a sound file—you know that patience truly is a virtue to an Internet user.

The bottleneck is sitting right there on your desk: your modem. As it sucks down bits from the Internet and blinks its little lights at you, your modem is the last leg of the journey—and the slowest—that the information must take on its way from the world to your computer screen. 28,800 bits per second is great for email, reading newsgroups and even a little Web surfing, but not enough for the multimedia Web sites that are all too common on the Net.

FAST, CHEAP INTERNET ACCESS SEEMS TO BE JUST ON THE HORIZON. IS IT REALLY THERE OR IS IT A MIRAGE?

Even users who have invested in one of the newer modems that receive data at 33,600 or even 56,000 bits per second ask the question aloud: "When will we get some real speed?"

There are several answers for faster Internet access, but so far these are best suited for small businesses. ISDN—Integrated Services Digital Network—delivers information at up to 128,000 bits per second—nearly five times the speed of that lagging 28.8Kbps modem—but is infamous for the difficulty of getting it to work. (Depending on where you are located, ISDN can also be expensive—from around $80 to several hundred dollars a month for even casual use, not to mention an investment of several hundred more for hardware necessary to use it.)

While we lag around on the Web at a snail's pace (well, maybe at the pace of a speedy snail), we hear stories—of a friend of a friend who has home Internet access ten times faster than ours. Or we read a newspaper story about how high-speed access is being tested in some far-away city.

Fast, cheap Internet access seems to be just on the horizon. Is it really there or is it a mirage?

What About Cable?

The technology that's getting the majority of the attention is cable Internet access. If you have cable television, you're already receiving hundreds of thousands of megabits of data every second in television signals. Wouldn't it be nice to harness some of that bandwidth to access the Internet? Although most cable companies aren't quite ready to provide Internet access, the technology is there. Depending on the equipment you use, you will be able to hook a cable modem to your computer, or directly to your television set so you can surf the Web using a special remote control.

For about 27,000 US households, cable Internet access is a reality today. There are four major providers of cable Internet access, and several smaller players, serving a smattering of locales. Chances that your area is covered today are not good. Industry execs expect that within three years, Internet access via cable will be an option for 30 million American households—a hefty number, but a far cry from the 67 million who subscribe to cable television today.

In order to offer Internet access via the same wire that your television signals travel on, your cable company allocates part of its bandwidth, enough to carry a TV channel or two, to Internet traffic. The cable company broadcasts incoming Internet packets to everyone, but unlike a TV signal, which can be seen by anyone who is tuned to that channel, each Internet packet has an address which ensures that only its intended recipient will see it.

Cable modems cost around $300. It is probable that when your cable company offers Internet access, it will rent the modem to you—or even loan it to you for free. The cost of Internet service is up to the cable company—today, prices range from $35 to $80 for all-you-want access, with $49.95 being about average. The access is fast and the connection is always up—you don't have to wait for a modem to dial, nor will you hear a busy signal.

Cable modems can theoretically deliver data at up to 350 times the speed of a 28.8Kbps modem, but you won't have all that speed to yourself. Cable access is a shared resource. Subscribers share the bandwidth with the cable customers on several nearby blocks. If every cable customer logs in to the Net at once (not likely) your access speed will slow down. On the other hand, if you're the only one online (also not likely) you get the bandwidth to yourself.

Sending data over cable isn't as easy as receiving it. Due to technical limitations most cable Internet services don't let you send data via cable. So hybrid systems, in which incoming data comes via cable but outgoing data travels on your phone line with a traditional modem, are most common. For Web browsing and downloading, this situation works nicely, since you're receiving a lot of information and sending very little. If you want to send gobs of data quickly—for instance, by setting up a Web server in your home or using videoconferencing to talk to grandma—this setup won't provide enough outgoing bandwidth.

DSL

DSL, Digital Subscriber Line, is an another emerging technology for high-speed access. For receiving data, DSL is 52–139 times faster than a 28.8Kbps

High-Speed Internet Access *continued...*

modem. Like cable, it is much slower when sending data, at 2–17 times the speed of a modem.

Unfortunately, DSL is available in even fewer cities than cable Internet access. In addition, the hardware necessary to use it is expensive—equipment costs $450–$700. Although it uses the phone lines that are already in your house, it is still difficult to set up and costly. DSL has promise, but it is only ready for prime time for a handful of users.

Pacific Bell has make its DSL service—dubbed FasTrak DSL—available in a smattering of locales: the Peninsula, South Bay and East Bay. The service costs $125 to install and $80 to $250 per month for unlimited use, depending on maximum speed and whether it is for residential or business use. If you can afford the toll, you won't be complaining about the service's speed: 1.5 megabits per second, more than 10 times faster than an ISDN line.

"Wireless Cable"

"Wireless cable" is another option in a smattering of metropolitan areas. These services offer Internet access (as well as television channels) that are received with a dish or other antenna rather than via a wire linking your house to the cable company. Wireless cable is a reality today—at least in the few cities that are lucky enough to have it. Several systems for wireless access are being tested, including new frequencies and delivery via low-power television.

Satellite delivery of Internet data in another option—DirecPC (*www.direcpc.com*) pumps Internet traffic into space and bounces it back onto your computer at 400Kbps, but you'll need a small satellite dish, about $300, to get started. Sending data to the Internet occurs over a relatively slow 28.8Kbps modem. Unlike cable Internet access (and even modem access), satellite time is expensive, so DirecPC does not provide all-you-can-eat access: users are charged by the amount of information that they download. DirecPC only works with Windows computers—Macintosh users and users of other computer systems are out of luck.

Making Do And Planning For The Future

Is there high-speed Internet access in your future? Almost definitely. But unless you're one of the lucky few serviced by a wireless or traditional cable company on the cutting edge, probably not for a few months or even longer.

For the first few months it is available, it may be priced just out of the range that casual Internet surfers will find acceptable. Moderate users, businesses and power users will certainly plunk down $40 or even $60 a month for lightning-fast access, but its unlikely that the average weekend Web surfer will see a value at those prices.

You can't live at 28.8Kbps forever—and no one is asking you to try. If you can't wait for your local phone or cable companies to speed things along, satellite access is available to just about anyone. Otherwise you'll have to keep your eye on the horizon for the high-speed bandwagon, and be ready to jump aboard. ■

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